

*Substitute specification  
approved for entry*

**TURBO COMPRESSOR AND METHOD OF OPERATING THE  
TURBO COMPRESSOR**

*W  
8/17/06*

**TECHNICAL FIELD**

[0001] The present invention relates to a turbo-compressor and an operating method thereof, and in particular, to a turbo-compressor and an operating method for preventing the compressor from surging, thereby improving the operation of the turbo-compressor.

**BACKGROUND ARTS**

[0002] With a conventional turbo-compressor used, for example, in a chemical plant, in many cases, a discharge pressure is set to be almost constant. In such a turbo-compressor, however, the discharge pressure changes if temperature and/or pressure of a suction gas is changed, even when the rotational speed is constant. As a result it may be impossible to reach a predetermined discharge pressure. Then, as is described in Japanese Patent Laying-Open No. Sho 56-121898 (1981), for example, detection is made of the intake temperature and pressure of a working gas, as early as possible, so as to change the rotational speed of a driving machine in response to the intake temperature and pressure detected, thereby controlling the turbo-compressor so that the discharge pressure thereof arrives at the predetermined pressure.